

Ecological Site Description ID:		F231XY189AK	
Ecological Dynamics of the Site:			
<p>This boreal ecological site occurs on areas adjacent to the Yukon River that frequently to occasionally floods. Soils are classified as cryofluvents and consist primarily of stratified loamy alluvium. While flood events are common, the low flood intensity allows for the dominance of deciduous trees and the establishment of coniferous trees. The shift in flood intensity results in a successional progression from R231XY198AK (i.e. starting with community phase 1.3). As sites progress from phase 1.3 to 1.1, exposed bare soil decreases and formation of soil organic matter increases. For community phase 1.1, soils were classified as cryofluvents and were composed of organic material over loamy alluvium.</p> <p>As a river breaks up in spring, pack ice often breaches the river banks and causes a disturbance we refer to as ice bulldozing. This ice related disturbance was observed to completely remove stands of balsam poplar and white spruce. While ice bulldozing was associated with this ecological site, common shrub and deciduous tree species quickly reestablish from below ground root reserves after this disturbance. As this disturbed community appeared to resemble community phase 1.3, no unique community phase was created for this particular disturbance regime.</p> <p>Flooding is a disturbance regime for this ecological site that results in 3 unique community phases.</p>			
State and Transition Diagram:			
<div><div>1.0 Reference State</div><div>Boreal forest loamy floodplain mid</div><div>F231XY189AK</div><div><div><div>1.1 (HCPC) Balsam poplar-white spruce-alder-high bush cranberry-red osier dogwood-prickly rose-horsetail forest</div><div>1.2 (2AM) Balsam poplar-thinleaf alder-red osier dogwood-horsetail forest</div><div>1.3 (2AE) Balsam poplar-thinleaf alder-feltleaf willow-red osier dogwood scrubland</div></div><div><div>1.1 a</div><div>1.2 b</div><div>1.2 a</div><div>1.3 a</div></div></div></div>			
State ID Number:	1	State Name:	Reference
State Narrative:	<p>Phases within the reference state were grouped on the structure and dominance of deciduous and coniferous tree species, which was believed to directly relate to the duration and intensity of flooding and/or ice damming on areas adjacent to the Yukon River.</p> <p>If flood intensity were to increase and hinder the establishment and growth of tree species, then the site transitions to ecological site R231XY198. If flood regime</p>		

shifts to favor growth of white spruce, then ecological site transitions to F231XY196AK.

Tall trees are defined as growing >40' in height, medium trees are defined as growing 15-40' in height, while stunted and regenerative trees are defined as growing less than 15' in height. Tall shrubs are defined as growing >10' in height, medium shrubs are defined as growing 3-10' in height, low shrubs are defined to grow 8" – 3' in height, and dwarf shrubs are defined to grow less than 8" in height.

Photo 1.1



Community Phase Number:

1.1

Community Phase Name:


Balsam poplar-white spruce-alder-high bush cranberry-red osier dogwood-prickly rose-horsetail forest

Community Phase Narrative:

When compared to phase 1.2, community phase 1.1 has taller and denser deciduous tree cover and greater coniferous tree cover. Tree cover primarily occurs in the tall tree stratum (total mature tree cover was ~70% cover). The dominant tree species is *Populus balsamifera* with *Picea glauca* as a codominate (occurring in tall, medium, and regenerative tree strata). Shrub cover is abundant primarily occurring in the tall and medium shrub stratum (~140% cover) and the most common species are *Alnus incana* ssp. *tenuifolia*, *Cornus sericea*, *Viburnum edule*, and *Rosa acicularis*. Forbs were a dominant understory component (~30% cover) and the most commonly observed species were *Equisetum arvense*, *Mertensia paniculata*, and *Galium boreale*. This phase had 2 observations.


Community Pathways

Pathway Number	Pathway Name & Description
1.1a	Intense flooding and/or ice shearing can remove majority of tree canopy. Species such as balsam poplar, alder, willow, and red osier dogwood quickly reestablish resulting in a community that resembles community phase 1.3.

Photo 1.2			
Community Phase Number:	1.2	Community Phase Name:	Balsam poplar-thinleaf alder-red osier dogwood-horsetail forest
Community Phase Narrative:			
<p>When compared to phase 1.3, community phase 1.2 has less willow cover and taller and denser deciduous tree cover. Tree cover primarily occurs in the tall and medium tree strata (~40% cover) and the primary species is <i>Populus balsamifera</i>. Shrub cover is abundant primarily occurring in the tall shrub stratum (~65% cover) and the most common species are <i>Alnus incana</i> ssp. <i>tenuifolia</i>, <i>Alnus viridis</i> ssp. <i>fruticosa</i>, and <i>Cornus sericea</i>. Forbs were a dominant understory component (~30% cover) and the most commonly observed species were <i>Equisetum arvense</i>, <i>Mertensia paniculata</i>, and <i>Galium boreale</i>. This phase had two observations.</p>			

Community Pathways	
Pathway Number	Pathway Name & Description

1.2a	Intense flooding and/or ice shearing can remove majority of tree canopy. Species such as balsam poplar, alder, willow, and red osier dogwood quickly reestablish resulting in a community that resembles community phase 1.3.
1.2b	Normal time and growth. Balsam poplar mature and flood regime allows for establishment and growth of white spruce.

Photo 1.3			
Community Phase Number:	1.3	Community Phase Name:	Balsam poplar-thinleaf alder-feltleaf willow-red osier dogwood scrubland
Community Phase Narrative:			
<p>Tree cover primarily occurs in the regenerative stratum (2-15% cover) and the most common species is <i>Populus balsamifera</i>. Dominant vegetation for this community phase was shrubs and shrub cover primarily occurred in the tall shrub stratum (total shrub cover ~150%). Commonly observed species include <i>Cornus sericea</i>, <i>Alnus incana</i> ssp. <i>tenuifolia</i>, and <i>Salix alaxensis</i>. Graminoids and forbs were minor vegetative components and commonly observed species include <i>Eurybia sibirica</i>, <i>Mertensia paniculata</i>, and <i>Equisetum</i> sp. This phase had two observations.</p>			

Community Pathways	
Pathway Number	Pathway Name & Description
1.3a	Normal time and growth. Flood regime favors growth of balsam poplar and community shifts from a willow/alder dominated community to deciduous forest.